IN THE DESCRIPTION:

Page 2, lines 15-34, cancel "the method and device ... solid particles (sand)." and substitute therefor:

In one embodiment, the invention provides a method for measuring interface levels between fluids. In this method, a variable magnetic field is established in one of the fluids whereby a counter-flowing magnetic field is established as a function of the properties of the fluid with respect to the portion of the conductive fraction in the fluid and the conductivity of the fraction. Further, the properties of the conductive fluid are registered by registering the prominent impedance or resonance frequency of the system. One or more interface levels that are present are then determined by corresponding registration in different fluid layers at different height levels and in the existent interface layers followed by mutual comparison of these properties.

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In another embodiment, a method is provided for measuring concentrations of water in a flow of an oil, gas and water mixture. In this method, a flow of the mixture of oil, gas and water is directed through a pipe having an excitation coil and a detector coil around the pipe in axially spaced relation to the excitation coil. Further, the coils have a different resonant frequency from each other. In accordance with the method, an alternating voltage is applied to the excitation coil at a frequency of up to 20 MHz in order to induce a variable magnetic field in the mixture. The resulting detector voltage is then registered in the detector coil as a measure of the electrical conductivity of the water in the mixture independently of the fraction of the oil and gas in the mixture. Thereafter, the resultant detector voltage is compared against a calibration value in order to determine the concentration of water in the mixture.

In another embodiment, a flow of a mixture of oil, water and gas is passed through a pipe having a pair of excitation coils and a detector coil disposed about the pipe. In this embodiment, an alternating voltage is applied to one of the excitation coils at a frequency of up to 20 MHz while an alternating voltage of a different frequency of up to 20 MHz is applied to the other excitation coil. The resultant induced voltage in the detector coil thus contains two frequencies and are registered as a measure of the electrical conductivity of

the water in the mixture independently of the fractions of oil and gas in the mixture. The amplitudes and frequencies of the induced voltage are then detected and compared to a mathematical model in order to determine the concentration of water in the mixture and the conductivity of the water in the mixture.

By plotting the induced voltage (impedance) as a function of the concentration of the water in the flowing mixture, any abrupt decline in the induced voltage with increasing water concentration may be determinative as a boundary layer between a water-continuous phase containing oil droplets in water and an oil-continuous phase containing water droplets in oil.